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**Date:** 7/8/03 11:08AM  
**Subject:** Complete List of EPA Comments on Willow Blvd. FS

EPA Region 5 Records Ctr.



235030

Hi Paul, sorry it took this awhile for me to get this to you. Here is a complete list of all of EPA's comments on the Willow Blvd. RI/FFS that were sent in my previous emails and that we discussed on the phone. Our comments also include what EPA believes would be appropriate remedial response objectives for the FFS, which MDEQ may or may not agree with.

Please let me know if you have any questions or would like to discuss any of our comments further.

How is the MDEQ's team review coming along? When can EPA expect to see MDEQ's final FS? Please let me know so I can update my management and plan accordingly.

Thanks! Karen.

(See attached file: EPA-Comments-WillowFS.wpd)

- contaminant transport and cleanup objectives. If not, some discussion should be provided in the text to explain why this area is shown to be in direct communication with the river in some figures but not in others.
6. Section 1.3.1: The document states that recycling occurred from 1950s through early 1970s. Actually the recycling of paper manufactured with NCR paper continued through approximately the mid-1980s.
  7. Section 1.3.2, Objective of the FFS, Page 1-7, Paragraph 1, Last Sentence, also Table of Contents and Section 8, Preferred Remedy: The FFS should not identify a preferred remedy. This will be done by EPA in the Proposed Plan. Please delete all references to the preferred remedy in the report.
  8. Section 3.3, OU Specific Geology and Hydrogeology, Page 3-4, Paragraphs 3 and 4: The report states that residuals at the Willow Blvd. and A-Site contain clay material. Could you please explain where this clay coming from? How does it get into paper waste? Or is this only clay-like material from the paper waste? Please explain.
  9. Section 3.3, OU Specific Geology and Hydrogeology, Page 3-6, Paragraph 4 and Page 3-7, Paragraph 1 and Section 5.3, Fate and Transport Within Groundwater, Pages 5-2 and 5-3: Please discuss any implications of the downward vertical gradients observed at the site, especially in relation to groundwater flow and contaminant fate and transport. This will help indicate areas where additional monitoring wells or characterization may be needed during RD/RA. Are groundwater and groundwater contaminants flowing into the Kalamazoo River adjacent to the site? Does the downward vertical gradients mean that we need to be aware that there could be contaminants deeper in the aquifer? Would these contaminants discharge to the Kalamazoo River too? Where? At some point further downstream? At the 2 sites I had with groundwater/surface water interfaces, the vertical gradients tended to be upward, indicating that the groundwater flow and contaminants were discharging into the river and not migrating any further in the aquifer.
  10. Section 3.3, OU Specific Geology and Hydrogeology, Page 3-7, Paragraph 2. After the horizontal flow gradients of 0.004 and 0.005, please add ft/ft or something similar so that it is clear that these values are expressed in consistent units, and not in inconsistent units that have been inadvertently left out.
  11. Section 4.2, General, Pages 4-3 to 4-20, and Associated Tables: The subsections and the corresponding tables give ranges of concentrations. Please explain what the upper and lower end of each range signifies. Also, Shari Kolak has indicated that the BERA numbers for PCBs should actually be 6.48 to 8.1

- mg/kg instead of 1.6 to 8.1 mg/kg, and the sediment numbers should be 0.5 to 0.6 mg/kg. Also these are SWACs applicable to the overall areas of interest, not specific cleanup levels. Also, Table 4-1A still shows residential/commercial 1 criteria being applied to the Area East of Davis Creek, even though this was revised in the text. Please correct.
12. Pages 4-16 to 4-20, Section 4.2.7, Groundwater, Subsections, and Tables 4-14 to 4-16B. Table 4-14A appears to calculate GSI values for chemicals that are hardness dependent. However, it's not clear where the calcium and magnesium values used to calculate the hardness values came from. Footnote G of Operational Memorandum 18, seems to indicate that the hardness should be based on the hardness of the receiving stream, but it appears that the calculated hardness values in Table 4-14A were based on the hardness in each individual groundwater monitoring well. Is this appropriate? Please explain how the hardness was calculated and how this method is appropriate and/or what the limitations are.
13. Pages 4-16 to 4-20, Section 4.2.7, Groundwater, Subsections, and Tables 4-14 to 4-16B. Note 1 in Table 4-14A indicates that the lesser of the calculated hardness-dependent GSI values for each location is highlighted, however, these values are not the same GSI values used in Table 4-15A. Perhaps some of the GSI values in Table 4-15A are background or human non-drink values, but this is not clear and should be explained in the tables and the text. If background values were used, the text and tables should explain how the background values were derived.
14. Pages 4-16 to 4-20, Section 4.2.7, Groundwater, Subsections, and Tables 4-14 to 4-16B. Note 3 in Table 4-14A indicates that some sort of mixing zone determination was done. More details are needed. Did MDEQ generate mixing-zone-based GSIs for chemicals detected above the generic GSI? This would include bis(2-ethylhexyl)phthalate, barium, cyanide, manganese, mercury and zinc. Are the values in Table 4-15A based on mixing zones? This should be clarified in the tables and in the text, including Section 5.3, Fate and Transport Within Groundwater, on page 5-2.
15. Page 5-2, Section 5.3, Fate and Transport Within Groundwater, Paragraph 3. This section indicates that the PCBs detected in the groundwater in AMW-3A are not from the A-site because the well is 400 feet upgradient of the A-Site and the well was installed in material containing PCBs. Please explain where the PCBs in the soil came from if they are not from the A-Site. Could they have eroded from the south side of the A-Site and been deposited in the AMW-3A area via overland flow and transport? Could Davis Creek or the Kalamazoo River have backed up into this area during flood events and deposited PCB-laden material here? If there are background sources of PCBs in soil and groundwater, these

should be identified and considered.

16. Section 5.3, Fate and Transport Within Groundwater, Pages 5-3 to 5-4. This section indicates that bis(2-ethylhexyl)phthalate, barium, cyanide, manganese, mercury and zinc are above the GSI. Again, it is not clear if these values exceed the generic GSI or a mixing-zone based GSI. The text also indicates that the zinc is most likely from galvanized wells and that the mercury is naturally-occurring and that these chemicals will be evaluated further in the Hydrogeologic Monitoring Plan, but what about the other chemicals that currently exceed the GSI? Perhaps the plan is to: 1) Install the cap and monitor; 2) Compare any remaining groundwater concentrations at the point of compliance to the generic GSI; and 3) If any remaining groundwater concentrations exceed the generic GSI at the point of compliance, establish background concentrations and/or perform a mixing zone determination to see whether or not the groundwater needs to be contained? MDEQ's plan to address chemicals that are currently above the generic GSI, and those that may remain above the generic GSI even after the cap is in place, must be fully explained. However, please note that EPA does not agree that groundwater remediation is triggered by exceeding surface water quality standards. For this OU, EPA considers GSI criteria TBCs to be achieved to the greatest extent practicable.
17. Section 5.3, Fate and Transport in Groundwater, Page 5-3, Paragraph 3. This paragraph suggests that the mercury found in AMW-5 is due to naturally occurring sources. However, the text should also indicate that mercury was detected in 10/17 subsurface soil samples from the A-Site at concentrations as high as 2.1 ppm (see Table 4-10). The Part 201 soil criteria for the protection of groundwater for mercury is 0.1 ppm.
18. Page 6-3: Delete the paragraph that starts with, "While the pathways and exposure..." Exposure pathways are understood and the ecological risk assessment has been finalized.
19. Page 6-6, First Paragraph. The sentence states that the "RI indicated a potential for surface water to contain PCB when in contact with PCB-containing sediment." Where in the RI for this OU was the connection between sediments and surface water, and between PCBs in sediments and PCB concentrations in surface water explored and determined? Please explain or revise.
20. Page 6-6, Section 6.2.1.4: Some mention should be made here and throughout the document about the relative impermeability of the residuals, particularly if MDEQ is hoping for approval of a risk-based disposal method. We need information regarding why EPA should give such an approval. Also, the discussion throughout regarding the threat to groundwater is not balanced by a

discussion of the impermeability of the residuals and adsorption of PCBs to the clay soils.

21. Page 6-6: Sentences stating "These potential risks will be further evaluated through a groundwater monitoring program... determined during the development of the Hydrogeologic Monitoring Plan" are misplaced. This is not the ROD, and this document should not predetermine what remedy is selected. Delete or revise to state something like, "Each alternative considered in this FS includes a ...."

22. Page 6-7, Section 6.2.2, Remedial Response Objectives, Surficial Soils and Residuals, Sediment and Surface Water. Section 1.2, OU Description on page 1-3 and Figure 3 identifies 6 areas of the site. In discussing the remedial response objectives for surficial soils and residuals, sediment and surface water, please be specific as to which area or areas each specific objective pertains to. As noted in Comment 7, additional justification is needed to apply sediment and surface water. Also, please be advised that EPA does not accept the state's water quality criteria numbers as ARARs for this OU, except to the extent that any discharges directly to the river from dewatering activities should meet the criteria. Also, EPA is not going to assume that groundwater remediation is triggered by the 0.000012 ug/L water quality standard. For this OU, the surface water quality and GSI criteria are only TBCs to be achieved to the greatest extent practicable. Based on the RI/FFS and the site-wide human health and ecological risks assessments for the site, EPA believes that the following response objectives would be appropriate for this OU. Some additional comments concerning leachate and groundwater also follow.

**Landfills:** Prevent human exposure to PCB concentrations above 20 mg/kg, which is the MDEQ state industrial cleanup value based on a risk of 10-5. In areas adjacent to the Kalamazoo River and Davis Creek that are inundated with water for at least 2 months a year, protect human health and terrestrial organisms by preventing aquatic exposure to PCB-contaminated materials above a SWAC of 0.6 mg/kg (*i.e.* the value established by the ecological risk assessment for in-stream sediments). Similarly, in areas adjacent to the Kalamazoo River and Davis Creek that are below the 100 year flood elevation, protect human health and terrestrial organisms by preventing aquatic exposure to PCB-contaminated material above the in-stream sediment ecological risk value by preventing erosion of PCB-contaminated materials above a SWAC of 0.6 mg/kg.

**Drainageways South of Landfills, Area East of Davis Creek and AMW3 Area:** In areas at or below 670 ft-msl elevation (the elevation shown to be inundated in Figures 12, 12A, 13A, 13B and 13C), protect human health and

terrestrial organisms by preventing aquatic exposure to and erosion of PCB contaminated materials above a SWAC of 0.6 mg/kg (*i.e.* the value established by the ecological risk assessment for in-stream sediments). In areas above the 670 ft-msl elevation mark, prevent human exposure to PCB concentrations above 20 mg/kg, which is the MDEQ state industrial cleanup value based on a risk of 10-5; and prevent terrestrial exposure to PCB contaminated materials above a SWAC of 6.5 to 8.1 mg/kg (*i.e.* the range of values established in the ecological risk assessment for soil).

**Residential areas:** Prevent exposure to PCB concentrations above 2.5 mg/kg, which is consistent with a 10-5 risk under a residential scenario.

**Kalamazoo River Sediment:** Remediation of Kalamazoo River in-stream sediment is only indirectly an RRO for this remedial action, which essentially seeks to consolidate and contain PCB-contaminated wastes and prevent erosion of PCB-contaminated wastes into the Kalamazoo River. In-stream sediments will be directly addressed as part of the remedial action for the Kalamazoo River. MDEQ anticipates that the remedial action for this operable unit will be consistent with any remedial action for the River. To the greatest extent practicable, the remedial action for this OU should prevent further contamination of in-stream sediments above the range established in the human health and ecological risk assessments for the Site.

**Surface Water:** Michigan has established surface water quality criteria to protect the quality of the surface water bodies of the state. The Kalamazoo River, upstream and in the vicinity of this operable unit, does not achieve the State's surface water quality criteria for PCBs. To the greatest extent practicable, this remedial action should prevent further degradation of the water quality criteria of the Kalamazoo River by preventing erosion of PCB-contaminated wastes from the landfill into the River.

**Leachate:** One of the RROs of this remedial action is to prevent the generation of PCB-contaminated leachate at the disposal areas. Whether leachate currently exists at the Willow Blvd./A-Site will be determined during the design phase of the remedial action. If leachate currently exists, or if the threat of leachate migration will exist subsequent to implementation of the remedy, then the RROs for this response action include the protection of the surface water quality of the Kalamazoo River by preventing the transportation of any such leachate to the Kalamazoo River. Each capping alternative described in this FS includes a component requiring evaluation of potential leachate generation at the landfill subsequent to capping.

**Groundwater:** The Michigan GSI criteria are designed to ensure the protection

of aquatic life by addressing the threat posed to the surface water bodies of the State by contaminated groundwater. One of the RROs for this response action is to ensure, to the greatest extent practicable, that contaminated groundwater at the disposal areas does not migrate to the Kalamazoo River and result in further jeopardizing the health of the aquatic species in the River (and, through consumption of contaminated fish, to human health and terrestrial life). Each capping alternative described in this FS includes a component requiring monitoring and evaluation of potential groundwater contamination subsequent to installation of the cap over the landfill.

23. Section 6.2.2, Remedial Response Objectives for Groundwater and Leachate on Page 6-7 only includes response objectives for PCBs, and not for any of the other chemicals that exceed the GSI or health-based industrial drinking water criteria (e.g., arsenic). It is not clear why these chemicals are not being addressed. The comment below also applies here.
24. Section 6.2.2, Remedial Response Objectives for Groundwater and Leachate on Page 6-7, and Discussions for Alternatives 2 to 2C in Section 7. These sections need to clarify the response objectives for PCBs in groundwater and how established exceedences at the point of compliance would be addressed. For example, the remedial response objective for PCBs in groundwater is to prevent the transport of PCB contaminated groundwater to surface water at concentrations exceeding 0.000012 to 0.000026 ug/l or method detection limit. It is not clear what this means. I assume that the 0.000012 ug/l value refers to the wildlife value and the 0.000026 ug/l refers to the human non-drink value, but the generic GSI is listed as the method detection limit of 0.2 ug/l. What happens if long-term monitoring at the point of compliance is greater than 0.000012 ug/l, but less than 0.2 ug/l, since we already have PCBs in the groundwater at these concentrations, and the detection limits for PCBs in the RI/FFS are as low as 0.051 ug/l? What is the remedial action objective? What is the ARAR? 0.000012 ug/l? 0.000026 ug/l? 0.2 ug/l? or 0.51 ug/l? Is there a difference between the remedial action objective and the ARAR? If there is, this should be explained. At what point would a groundwater containment or treatment system need to be installed? Also, if PCBs were detected above the "action level" (whatever it may be), would a mixing zone determination be made? Please discuss MDEQ's rules and regulations for mixing zones for PCBs and other bioaccumulators, and note whether they are policy or statutory. Also, what constitutes the "point of compliance"? Would a groundwater pump and treat or containment system be installed if contamination was above criteria in only one well? Or would exceedences have to be in more than one well along the discharge zone? Please clarify and include appropriate policy/statutory references to support MDEQ's position.

25. Page 6-10, Section 6.3.2, Alternative 2. According to this section, additional characterization of soils south of Lot 5 is necessary to ensure that residential criteria are attained. Please provide the justification for this additional sampling. According to Section 6.2.1.2, Surface Soils, Sediment and Residuals, Paragraph 1 on Pages 6-4, surface soils at the Willow Blvd. OU exceed criteria including the residential thresholds of 2.5 to 4 mg/kg. But then, in Paragraph 3 on Page 6-5, no PCBs were detected on residential properties above criteria (including Lot 5, the Bloomfield property) and the extent of PCBs has sufficiently been defined for these properties. In fact, at Lot 5, PCBs were only detected in 2 of the 4 surface soil samples collected from this lot at concentrations of 0.14 and 1.5 mg/kg, and no PCBs were detected at depth. Therefore, it is not at all clear why additional sampling in the residential lots south of Lot 5, which are even further away from the landfills, is warranted. Please revise the relevant sections of the RI/FFS to provide a thorough justification for why this sampling is necessary and/or eliminate the inconsistencies between these sections of the report.
26. Page 6-11, Section 6.3.2.2, Alternative 2B, Section 6.3.2.3, Alternative 2C, and Table 7-1B, Page 1 of 5 and 7-1C, Page 1 of 5: The costs for Alternative 2B (50 ft setback with rip-rap) and Alternative 2C (50 ft setback with eco-friendly options) specific to the Willow Blvd. part of the site have vastly different costs for water treatment (Item 4d). In Alternative 2B, it would cost over \$1.2 million for water treatment while in Alternative 2C water treatment only costs \$100,000. Please include some additional details in Sections 6.3.2.2 and 6.3.2.3 to explain why water treatment costs over a million dollars more for one option than the other since this is not clear.
27. Page 6-11, Section 6.3.2.2, Alternative 2B, Section 6.3.2.3, Alternative 2C, and Figure 23. From the descriptions of the alternatives and Figure 23, it is not clear what is meant by the 50 ft setback. Does this mean that a 50 foot strip of the landfill along the river would be excavated and consolidated with the other landfill materials, making the river 50 feet wider? Where would the berms go? 50 feet out from the new shoreline? More details and a cross-section similar to Figure 23 showing the location of the berms, the setback, and the new banks would be helpful. Similarly, it would also be helpful to have figures showing how the river bank would look under Alternative 2 (bank stabilization, no setback) and Alternative 2A - sheetpiling. This will be useful for helping the public to understand how the different alternatives would look.
28. Page 6-11, Section 6.3.2.3, Alternative 2C and Table 7: The costs specific to the A-Site in Table 7 for Alternative 2C are \$800K more than the costs specific to the A-site in Alternative 2A, even though MDEQ has confirmed that there should be no difference in the work that would be done at the A-Site in Alternative 2A and Alternative 2C. Please explain this cost difference and/or re-calculate as

necessary. Maybe it's a typo?

29. Page 7-8, Type III Cover System. Please provide additional details to explain why the cover system in the containment alternative exceeds the 2-foot thick low permeability cap and 6-inch topsoil layer for vegetative cover generally required for Type III cover systems. More justification is needed to explain why the additional elements such as the 30-mil FML, 6-inch gas venting layer/soil cushion, 24-inch soil/drainage layer and 6-inch topsoil layer are necessary, and why the standard 2-foot clay/6-inch soil cap was not even considered in the FFS as a remedial alternative.
30. Page 7-9, Overall Protection of Human Health and the Environment. Please provide more detail to explain how this alternative is protective in areas, such as those at the Willow Blvd. site, where up to 10 feet of residuals is below the water table. Why wouldn't excavation be a more appropriate solution in these areas? How do we know excavation is not warranted? Please explain, since the public is bound to raise this concern.
31. Pages 7-9 to 7-11, ARARs. Please discuss how this alternatives would comply with RCRA. Are RCRA landfill and capping regulations ARARs? Why or why not? Also, the ARAR discussion needs to include the Rivers and Harbors Act.
32. Page 7-10: Michigan water quality criteria are a TBC for the soil components of this remedy, not an ARAR.
33. Page 7-11: PRPs are entitled to know now what the hydrogeologic monitoring plan would require, and where state's cost figures for groundwater remediation have come from.
34. Page 7-14, Bank Stabilization. Please clarify how deep the sheetpiling would extend in relation to the landfilled residuals and the underlying soil.
35. Throughout document: State and community acceptance should be evaluated now, and again after Proposed Plan is issued. If the community has expressed a preference for removal of sheetpile, or excavation of all residuals, it should be noted here. Similarly, the MDEQ should also indicate its preference. State and community acceptance are good rationales for selecting one alternative over another.
36. Throughout Document: If the state/EPA wants to reject any alternative that is cheaper but just as effective, there has to be a justification under the NCP criteria. Habitat and eco-friendly materials are not considerations under the NCP. Please revise.

37. Throughout the Document: How the setback for Willow Blvd. would work needs to be explained. Does MDEQ have data to support what materials would need to be pushed back – i.e. by PCB concentration? How was the need for a 50' setback determined? What calculations were done? Why wouldn't a narrow setback (and less excavation along the riverbank) work just as well? How deep would the residuals be excavated in the setback area? How was this determined? Also, as requested in an earlier comment, would a berm then be constructed on the outer edge of the 50' setback, between the setback and the river?
38. Page 7-15, under Heading "Part 31 of the NREPA." EPA assumes the statement "As experienced at other operable units along the river" refers to the Allied Paper OU. Whether the sheetpiling is contributing to groundwater contamination is in sharp dispute between Millennium Holdings and MDEQ. EPA suggests deleting this reference.
39. Page 7-16: The estimated cost of this alternative in this text is \$11.74 million. Table 7-1 states the cost as \$13.2 million. Which is correct?
40. Page 7-17: What data justified a 50' setback, rather than, say, 25 or 30 feet? 100 year floodplain level? Some other figure?
41. Throughout Document: Will the 50' setback require any clean fill? What will be the slope of the setback? What will be the residual PCB concentration in remaining soils?
42. Page 7-18: Discuss compliance with the Rivers and Harbors Act ARAR. Any remedy that involves pushing the floodplain back has to deal with the River and Harbors Act, which requires that floodplains not be altered in certain ways.
43. Page 7-21: Is the cost of the 2B Alternative \$14.71 million or \$14.77 million? See Table 7-1.
44. Alternative 2-C: If the state wants to consider this alternative, it needs to add some kind of a discussion that habitat improvement is not a criterion under the NCP, but perhaps under state law it can be considered? Or, add a discussion of community/state acceptance of this alternative.
45. Table 7-1 needs to reflect that Alternative 2-C requires a 50' setback.
46. Tables 7-1B and 7-1C. What are the excavation costs for the 50' setback? In Tables 7-1B and 7-1C, the only costs listed under Item 3, Mechanical Excavation

are "costs for excavation of drainageway as necessary to construct cover system" (for the Willow Blvd. site) and costs for "excavating residuals east of Davis Creek and south of A-site Berm as necessary to construct cover system and relocating to stabilization area" (for the A-site). It seems like costs for excavating 50 feet of the landfill along the riverbank for both sites or even just the Willow Blvd. site could be significant. Please clarify.

47. Page 7-28: Discussion indicates that any materials over 10 ppm PCB would be covered. Covered with what?
48. Alternatives 3 and 4: Since both of these alternatives involve excavation and trucking of PCB-contaminated wastes, RCRA may be triggered as an ARAR, not just a TBC.
49. Page 7-41 to 7-42: EPA is uncertain that the King Highway Landfill ROD included a pump and treat system, as suggested here. Please verify.
50. Section 8, Preferred Remedy Discussion: Since the state took over the writing of this RI/FS, can this "preferred remedy" discussion be deleted? Apparently the inclusion of such a section was part of the AOC, but since Georgia-Pacific did not create the document, it is no longer necessary. Aesthetics simply do not justify a remedy choice.
51. Figure 22, Total PCB Groundwater Detections: Please indicate somewhere on the figure that all groundwater monitoring wells were sampled in 2000 and that only detected concentrations are shown.
52. ARAR Chart

*Chemical Specific*

- ☐ 40 CFR 131: This CFR provision is not an ARAR since it specifically sets "goals," not requirements, and procedures for state-adopted water quality standards. It can be listed as a TBC, but is not really necessary at all, since the state standards are promulgated and approved.
- ☐ 40 CFR 122 and 136: These CFR provisions are not just monitoring requirements, as described here. Section 122 establishes the federal NPDES permit system, and 122 establishes test procedures for the testing of pollutants.
- ☐ RCRA: the dike guidelines of RCRA would not be a chemical-specific TBC, but rather an action-specific TBC.

- **TSCA:** As noted in the text of the FS, only the PCB Remediation Waste Rule ("Mega rule") is an ARAR for purposes of this OU. Only reference should be to 761.61.
- **Michigan Part 31 Standards:** This ARAR needs to be explained at some length. The surface water quality standards can be identified as a TBC for purposes of the erosion control and setback components of the alternatives. Part 31 standards can be an ARAR for purposes of discharges of wastewater from the dewatering activities.
- **Michigan Hazardous Waste Management Act:** unless the state regulations are more stringent than federal RCRA regulations, they should not be identified as a TBC.

*Action-specific*

- **CERCLA:** CERCLA is not usually identified as an ARAR.
- **33 CFR 320-330 and 33 USC 1344:** These references are overly broad and inadequately described. Many of the provisions are inapplicable and irrelevant to any proposed component of any alternative. Moreover, only the substantive requirements, not the procedural requirements, of any permit would be applicable.
- **RCRA:** It is insufficient to merely identify RCRA as an ARAR. Whether RCRA is applicable or only relevant and appropriate is important to determine, since a determination of relevance and appropriateness will enable the Agency to choose which RCRA regs are relevant and appropriate. When did disposal end? Can the two areas of contamination be considered a single "area of concern?"
- **TSCA:** Only the PCB Remediation Waste Rule is an ARAR.
- **"Water Quality Standards":** See discussion above. Except for discharges of wastewater resulting from dewatering activity, state surface water quality standards are not an ARAR for this OU.
- **"Clean Air Act":** It is unclear what "filing requirements" should be considered, and how any filing requirement would be relevant to the relocation of residuals
- **Either state or federal air emission standards should be added to the list as a potential ARAR in the event the emission standards are exceeded during**

the remedial action. Monitoring is required. Michigan Air Pollution Control regulations are referenced in the "location specific" section – should also be identified here if they are more stringent than federal requirements.

***Location Specific***

- **Part 303:** No permit is required so delete reference to permit application process.
- **Michigan Public Act 451, Part 301:** Unless the state regulations regarding dredging or filling of lake or streams is more stringent than the federal CWA or River and Harbors Act, delete this reference.
- **Part 91:** It is unclear under any of the alternatives identified what off-site floodplain areas could be affected. Explain how this regulation may be an ARAR.
- **Part 31:** EPA does not accept state anti-degradation standards as ARARS. Explain each of these regulations and describe why it applies or is relevant and appropriate to the remedy.
- **Michigan Water Resource Rules:** It is unclear to me whether each of these regulations (from R323.1001 to R323.2192) is an ARAR. Are these rules more stringent than federal requirements? Explain.
- **Michigan Part 115:** Identify this as "relevant and appropriate" and not "applicable" since no liner requirement is required. Explain why no liner is required.